

BOOK REVIEW

ROBERT H. MACARTHUR and EDWARD O. WILSON. 2001. **The Theory of Island Biogeography**. (ISBN 0-691-08836-5, pbk.). Princeton University Press, 41 William Street, Princeton, NJ 08540, U.S.A. (Orders: www.pupress.princeton.edu, 609-258-5714, 609-258-1335 fax). \$19.95, 203 pp, 60 figures, 5" × 8".

This newest edition in the Princeton series of *Landmarks in Biology* brings us an essential text that when published in 1967 made an indelible mark on the field of ecology. While the parameters of the assembly of discrete biotic communities is a focus, the innovation here was the authors breaking away from the mold to explore other phenomena like demography and competition. In the 30 years since initial publication, *The Theory of Island Biogeography's* impact has resonated primarily in the disciplines of conservation biology and biogeography. This is an introductory text in the truest sense. In hindsight, Wilson notes in the preface: "the flaws in this book lie in its oversimplification and incompleteness, which are endemic to most early efforts at theory and synthesis. Large number of experiments supported our hypothesis others did not. Also, we were satisfied to account for the effect of area on equilibrium species numbers as an outcome of varying population size and fluctuation. Thus, small islands supporting small populations are more prone to lose species than large ones, and the effect is exacerbated when the amplitude of population fluctuation is increased. Later, others were quick to point out that population size is far from the whole story. The area effect owes a lot to physical geography." (p. ix) Nonetheless, this edition offers students the foundations of island biogeography.

There are eight chapters covering the following topics: the importance of islands, area and number of species, explanations of the area-diversity pattern, invisibility and the variable niche, biotic exchange, and evolutionary changes following colonization. The book begins with the area-diversity curve and throughout an extensive theory of the equilibrium of species is developed. The authors then go on to consider the influence of life-table parameters of individual organisms on the immigration and extinction rates of populations and generalize about the evolutionary strategies species must adopt in order to be good colonizers. The role of stepping stones in dispersal and exchange of species and the consequences of island biogeography theory on evolutionary theory are discussed in closing the book. The book is sufficiently detailed in the mathematical formulas that describe and support their theory and also contains a very useful glossary of terms and general subject index.

In summary, I would recommend this book for island biogeography, conservation biology, or history of science classes. It serves as a snapshot of the early theoretical development of biogeography by which students can gain an appreciation for the disciplines evolution in light of the far more detailed work that has preceded it. The text is concise, affordable and the product of two men whose contributions to biology have been immeasurable.—Kevin D. Janni, *Botanical Research Institute of Texas, Fort Worth, TX 76102-4060, U.S.A., kjanni@brit.org*.